REMARKS

Consideration of this amendment in the above-identified RCE application is respectfully requested.

The specification has been amended, where appropriate, to insert generic terminology following every recitation of SOMALOY. No new matter has been added by these amendments.

Substantively, claims 25, 27-28, 30, 38-42 and 45 stand rejected under 35 U.S.C. §103(a) as being upatentable over Rossi (2002/0084777) in view of Lavan (5,729,134) and Wright (6,657,847). As it relates to the sole independent claim 25, Rossi is cited as disclosing all but the excitation coil generating a transient excitation signal and the monitoring device configured to compute an effective resistance of the excitation coil as a function of the voltage and the current. Lavan is cited as disclosing the use of a transient excitation signal, and Wright is cited as disclosing computing an effective resistance of the excitation coil as a function of the voltage and the current. In the Examiner's view, it would have been obvious to a person of ordinary skill in the art to modify Rossi to use the excitation coil to generate a transient excitation signal according to the teaching of Lavan and to further modify the monitoring device to compute an effective resistance according to the teaching of Wright. The remaining claims also stand rejected under 35 U.S.C. §103(a) as being upatentable over the same combination and further in view of one or more additional cited references. For at least the following reasons, applicants traverse the §103(a) rejection of claim 25.

Col. 6, lines 18-28 of Wright is cited as disclosing computing an effective resistance of an excitation coil as a function of the voltage and the current. However, applicants note that the cited passage actually discloses computing a dynamic coil resistance, e.g., effective coil resistance, by measuring the coil voltage only when the current through the coil is steady state, i.e., constant. Under these conditions, the change in magnetic flux is zero, and the coil resistance may thus be computed as the simple ratio of the coil voltage value and the constant current value when the coild current is steady state. In contrast, applicants' claimed invention requires computing an effective resistance of the excitation coil as a function of the voltage across, and the current through, the excitation coil resulting from application of the transient excitation signal (emphasis added). As described at page 11, lines 7-16, the current through the coil and the voltage across the coil terminals are measured during the duration of the transient excitation signal, i.e., resulting in likewise transient current and transient voltage signals. As a specific example of this, page 12, lines 7-8 of the specification sets forth an illustrative embodiment wherein the transient excitation signal is described as being provided in the form of a transient current signal applied to the coil, which produces a transient voltage across the terminals of the coil. Moreover, it should be clear from the equation at line 22 of page 12 of applicants' specification that the effective resistance in applicants' system is computed as a ratio the transient coil voltage and the transient coil current. This is because the coil voltage parameter is expressed in the equation as the integral of the coil voltage over the duration of the transient excitation signal, and the coil current parameter is expressed as the integral of the coil current over the duration of the transient excitation signal. If the coil current or

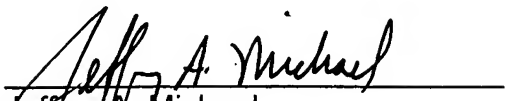
coil voltage was constant for computation of the effective resistance in applicants' syste,, as required in the Wright system, there would be no need to integrate the coil current and coil voltage over the duration of the transient excitation signal. Unlike the Wright system, the coil current, during computation of the effective resistance in applicants' system, is thus a transient coil current, and the coil voltage, during computation of the effective resistance in applicants' system, is likewise a transient coil voltage.

Applicants have herein amended claim 25 to more particularly point out the above-described feature by adding the word "transient" prior to recitation of the voltage across the coil, and also prior to recitation of the current through the coil, resulting from the transient excitation signal. Several of the dependent claims have also been amended for consistency with this claim terminology. No new matter has been added by these amendments.

For at least the following reasons, applicants believe that independent claim 25, as amended, is distinguishable over the references of record. Because the remaining claims ultimately depend from claim 25, these claims are believed to be distinguishable over the references of record for the same reasons.

Claims 25-45, as amended, are believed to be in condition for allowance, and such action is solicited. The Examiner is cordially invited to contact the undersigned by telephone to discuss any unresolved matters.

Respectfully submitted,



Jeffrey A. Michael
Registration No. 37,394
Barnes & Thornburg
11 South Meridian Street
Indianapolis, Indiana 46204-3335
Telephone: (317) 231-7382
Fax: (317) 231-7433